

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
25 August 2005 (25.08.2005)

PCT

(10) International Publication Number  
**WO 2005/078863 A1**

(51) International Patent Classification<sup>7</sup>: **H01Q 11/08**,  
7/00, 1/36

(21) International Application Number:  
PCT/IB2005/000074

(22) International Filing Date: 14 January 2005 (14.01.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:  
2004/0354 16 January 2004 (16.01.2004) ZA

(71) Applicant (for all designated States except NZ, US): **EMF TECHNOLOGIES CORPORATION**; Hansa Bank Building, 1st Floor, Landsome Road, The Valley, TV102P (AI).

(71) Applicant (for NZ only): **PARRY, Martin** [ZA/ZA]; 40 Hugh Dent Drive, Salt Rock, Durban, 4420 Kwa-Zulu Natal Province (ZA).

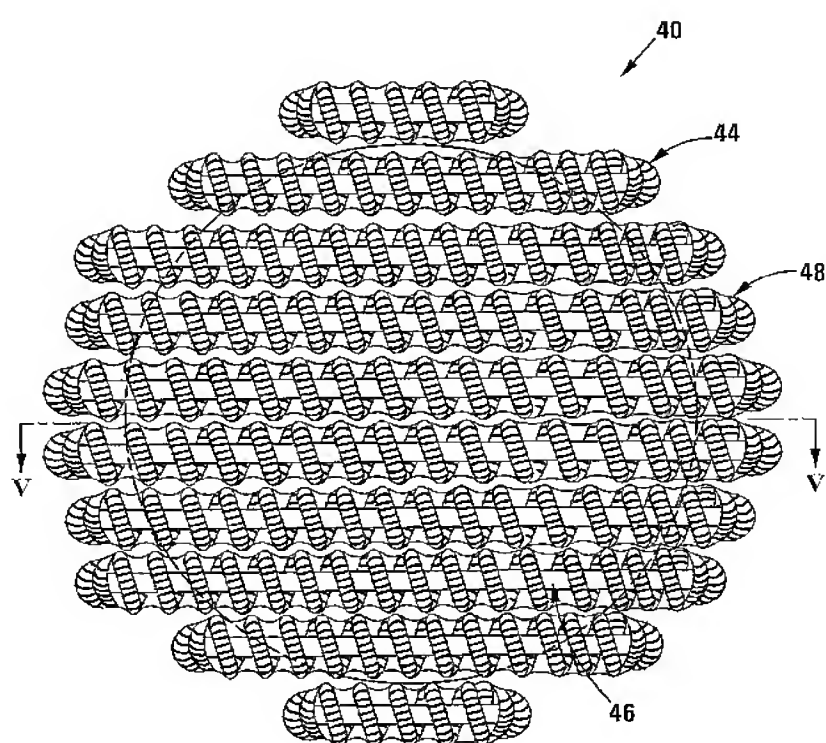
(72) Inventor; and  
(75) Inventor/Applicant (for US only): **KOKORIN, Boris** [RU/ZA]; 24 Marine Terraces, 17 Marine Drive, Umhlanga Rocks,, Durban, 4319 Kwa-Zulu Natal Province (ZA).

(74) Agent: **LEWIS, Alan**; Adams & Adams (Johannesburg), 3rd Floor, 23 Wellington Road, Parktown, Johannesburg, 2193 Gauteng Province (ZA).

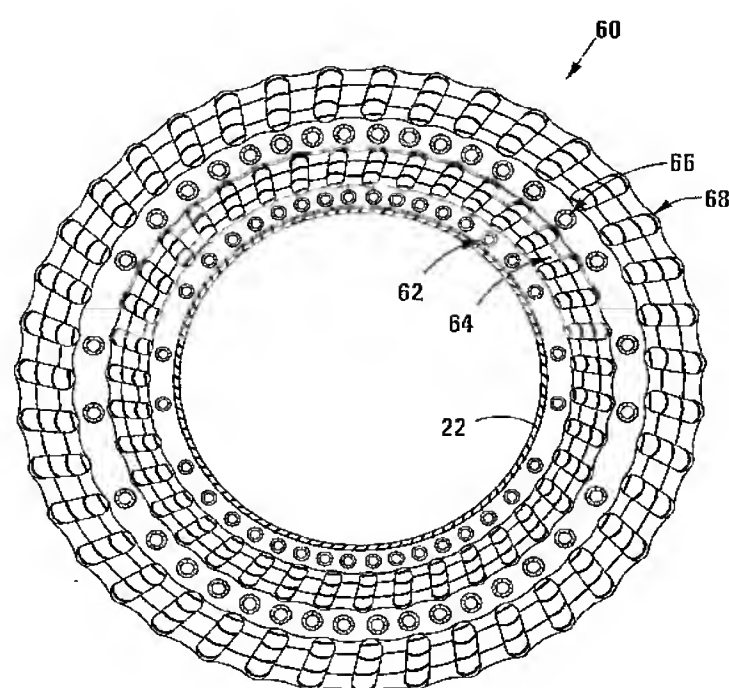
(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM,

[Continued on next page]

(54) Title: A SPHEROIDAL MULTI-SOLENOID ANTENNA



(57) Abstract: A spheroidal antenna, having a spheroidally configured winding. The winding comprises a three-dimensional spiral about an axis with the radius of turns of the winding progressively increasing and then decreasing. The winding may be of a multi-solenoid conductor. It may also be composite, having a primary conductor with a secondary conductor wound toroidally about the primary conductor. The antenna may have a plurality of windings. Two windings may be in the same layer, with the turns thereof being laterally adjacent each other. The antenna may be multi-layered, with the turns of one layer being at an angle to the turns of a super-adjacent layer. The antenna may have a hollow spheroidal former.





TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**(84) Designated States** (*unless otherwise indicated, for every kind of regional protection available*): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO,

**Published:**

— with international search report

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*